No:20170119-2

Taizhou Elite Drilling Pipe Co.,Ltd

Drill Pipe Quality Certificate

Customer	Channel Ark Enterprises.
Ref. No.:	ELT2016-11-22
Quantity	484 Pcs
Total Weight	134.747 T
Total Length	4618.45 M
Standard	API SPEC 5DP-2009 PSL-1

Description	Spec	4 1/2" 16.60	Length range	R2	Steel type of tool joint	SAE4137H1	Size of pin connection	NC46 Φ158.8 OD * Φ76.2 ID	Heat Treatment	Quenching and Tempering
	Steel Grade	G105	Upset type	IEU	Hard band		Size of box connection	NC46 Φ158.8 OD * Φ76.2 ID		

Pipe Body

Drill pipe Manufacturer	M welt No./Heat Treatment No.	(wt%)Chemical Composition											Tensile Test			Impact Test								Appearance Test	NDT
																Akv(J)				percent shear area					
		C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Al	V	YS Rt0.6(M pa) 724~931	TS Rm(M pa) ≥793	ELA %≥14	1	2	3	Avg	1	2	3			
					≤0.020	≤0.015										≥38			≥43	%					
HBXY	6075057Z/612291	0.26	0.27	1.07	0.005	0.004	0.88	0.17	0.02	0.03	0.04	--	825	920	20	102	98	106	102	86	85	86	Passed	Passed
		0.26	0.27	1.08	0.006	0.004	0.88	0.17	0.02	0.03	0.04													
	6075057Z/612292	0.26	0.27	1.07	0.005	0.004	0.88	0.17	0.02	0.03	0.04	--	833	941	20	90	96	112	99	86	86	87		
		0.26	0.27	1.08	0.006	0.004	0.88	0.17	0.02	0.03	0.04													
	6075057F/612293	0.26	0.27	1.07	0.005	0.004	0.88	0.17	0.02	0.03	0.04	--	847	952	19	88	92	94	91	85	86	86		
		0.26	0.27	1.08	0.006	0.004	0.88	0.17	0.02	0.03	0.04													

Weld Zone

LOT NO.	NO.	Tensile Test			Impact Test							Hardness Test(HRC) ≤37				Bend Test	Appearance Test	NDT
					Akv(J)				percent shear area			Pipe Body		Tool Joint				
		YS Rp0.2(M pa) ≥655	TS Rm(M pa) ≥724	EL A% ≥13	1	2	3	Avg	1	2	3	OD	ID	OD	ID			
					≥14			≥16	%									
612291	6241	744	845	17	85	88	92	88	85	85	86	26.8	26.5	29.7	30.3	Passed	Passed	Passed
612292	6242	732	840	17	82	86	86	85	85	85	85	26.9	27.2	30.2	30.4			
612293	6243	736	855	17	82	85	88	85	85	85	85	26.4	26.7	29.6	29.5			

Tool Joint

Tool Joint Manufacturer	M welt No./Heat Treatment No.	(wt%)Chemical Composition								Tensile Test			Impact Test								Hardness Test (HB)285~341			Appearance Test	NDT
													Akv(J)				percent shear area								
		C	Si	Mn	P ≤ 0.020	S ≤ 0.015	Cr	Mo	Ni	YS Rp0.2(M pa) 827~1034	TS Rm(M pa) ≥965	ELA % ≥13	1	2	3	Avg	1	2	3	OD	MD	ID		
													≥47			≥54	%							
HY	16704321/16CB00248	0.37	0.25	0.94	0.006	0.001	1.16	0.31	0.11	988	1083	17	94	93	87	91	79	79	79	331	329	335	Passed	Passed
	16704321/16CB00634	0.37	0.25	0.94	0.006	0.001	1.16	0.31	0.11	933	1033	18	100	103	104	102	80	80	81	317	319	321		
	16710037/16CA00045	0.38	0.26	0.94	0.006	0.001	1.1	0.31	0.02	948	1065	16	99	93	95	95	80	80	80	331	333	325		

Remarks

1、Specimen size for Impact Test and testing temperature: pipe body10x7.5x55mm(21℃); weld zone10x10x55mm(21℃); tool joint10x10x55mm(-20℃). Specimen size: for Tensile strength: pipe body (specimen strip) 25.4mm; weld zone Φ12.5mm; tool joint Φ12.5mm.

2、NDT: Artificial reference indicators are :1/16 in radially drilled hole:N10 notch:MT—A30/100

Conclusion

The products listed in this Quality Certificate are all manufactured according to API SPEC 5DP-2009 and API SPEC 7-2 -2008&Addendum2010 ,All products have passed the inspection.

TAIZHOU ELITE DRILLING PIPE CO.,LTD 台州优莱特钻杆有限公司 检验专用章

PREPARED BY: Dengzheng

QUALITY MANAGER

Date:2017.01.19

Taizhou Elite Drilling Pipe Co.,Ltd

Magnetic Particle Examination Peport

ELT/A2-14 A / 0

Specification	4 1/2"	Material	26CrMo4S/2
Heat treatment state	Quenching and Tempering	Equipment type	CDG-3000
Particle type	Fluorescent	Sensitivity	A 30/100
Field direction	Longitudinal and transverse	Suspension vehicle	Water
Magnetization method	Wet Continuous Magnetization method	Inspection Location	Weld Zone
Standard	ASTM E709	Acceptance standard	API SPEC 5DP

Result

Serial No.	Heat No.	Check total	Passing No.	Unqualified No.
1	6075057Z/612291	321	321	0
2	6075057Z/612292	321	321	0
3	6075057F/612293	331	331	0
Remarks				

Inspector		Qualification grade	
Authetication		Qualification grade	

TAIZHOU ELITE DRILLING PIPE CO.,LTD 台州依莱特钻杆有限公司 检验专用章

Date:2017.01.19

Taizhou Elite Drilling Pipe Co.,Ltd

UT INSPECTION REPORT

ELT/A2-14-1 A / 0

Specification	4 1/2"	Material	26CrMo4S/2
Heat treatment state	Quenching and Tempering	Grade	G105
Instrument Model	SST-168	Reference Standard	N10
Method	Water film method	Couplant	Water
Inspection Location	Pipe Bod	The reference reflector echo	80%
Probe Type	4Z-2.5P18×10K1 3Z-2.5P12×16K1 4Z-5P18×4×2F10 C543		
Standard	ASTM E213	Acceptance standard	API SPEC 5DP

Serial No.	M welt No./Heat Treatment No.	Check total	Passing No.	Unqualified No.
1	6075057Z/612291	161	161	0
2	6075057Z/612292	161	161	0
3	6075057F/612293	165	165	0
Remarks				

Inspector	Dou Lanping	Qualification grade	II
Authetication	Zhao Guizhen	Qualification grade	II

TAIZHOU ELITE DRILLING PIPE CO.,LTD 台州优莱特钻杆有限公司 检验专用章

Date:2017.01.19